

## The Flume

This description of a flume Conrad helped to maintain was recorded in 1967.

Are you ready?

My daughter would like some information about the flume that I patrolled so long up in Provo Canyon for the Utah Power and Light Company. And I'm going to record it on this 20th day of October 1967, at Provo, Utah.

The flume was constructed of very, very good lumber, the best that could be had at that time. If there was a knot in the board it didn't go in the flume. We would have twenty-foot boards, I'll have to verify that. Five fours are twenty, no it was four-foot sections. The flume was built out of sills and posts set on cement posts with dials in them to go up into the sill and they were all four-foot sections only they would span over a period as far as—four four's are sixteen feet and four more is twenty—twenty-foot boards. We had a lot of twenty foot sections. We had a lot of eight foot sections. We had some twelves, the shorter ones we'd make the bends with, of course, when we'd go around the bend of a hill or something like that and on the straight-a-ways we'd use the twenties. It was all grooved stuff, then the tongue was put in after the material was put into place. They'd build on a section, they'd drive the tongue back in and the boards were grooved on both sides, or milled, or ploughed out, whatever you want to call the groove. They call it ploughing. Then the spleen that went in between the two boards to keep it from leakin' was just the right width and thickness to slip back in there with a little bit of force. Sometimes a worker had to push it in with his hand, sometimes you hadta kinda drive it in with a mallet. There will never be another flume built with that kinda lumber in the United States, in my opinion.

Talk to it? About the flume?

The top was covered over the same as the sides and the bottom only with inch boards, only the four center boards. The flume was eight feet high, ten feet wide and eight feet deep and the center boards that you walked on, patrolled on, hauled the wagon on that you carried along to take the rocks off the back fill was two-inch timber, two-by-tens, two-by-twelves, four two-by-twelves on top, then one-by-twelves on the side of that, with a six-inch piece in order to take up the extra space of inches across the flume, but there wasn't any place there was a crack any more than an inch wide on top. That was so you could patrol from the top.

And then we had to go every day, summer or winter, it didn't make any difference, hot or cold, I had to go the full length of it because it had been graded along from a plateau or a bench or a series of ridges or hills whatever you wanted to call them. And of course there was always rolling rocks, and rainstorms would wash the dirt away and more rocks would

fall. Year after year we had all that back fill to put over the flume and dispose of. We'd hire some extra help for that most of the time, but if a rock came down and smashed into it and damaged the boards, we had to go down there and put a scab on it; and if it was big enough for them to notice it at the power plant, whether it was day or night or hot or cold, we had to go down there and put a scab on it or put in a false board, on the outside with oakum on it, if you know what oakum is. Plumbers use [it] to cork up pipes with in order to stop the water from running because it wouldn't take long to wash that down off the side of the mountain, or these hills, I call hills, some people call them mountains.

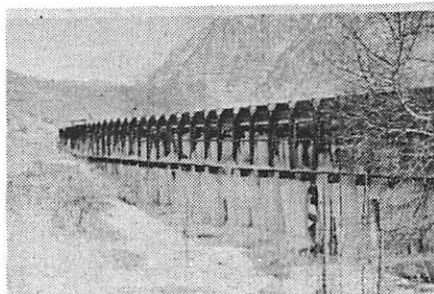
When the flume began to get real old they'd drop out—four-foot lengths out of the bottom. All there was to do was undress and crawl under there, hot or cold, scab up another board against [the weak area] and shut the stream off.

Then each spring we had a turn out. Then we'd replace those [boards] that were bad. We'd put them in like a hog trough and then put a jack up against the top, jack the board down into place and force it to go in down there and then we'd have that much of the flume new again. But it wasn't too much of a problem on the bottom because they were all made out of three-inch stuff. Three-by-eights, then on the sides, where it started up the posts for the standards was a hog trough, or in other words a square piece of timber cut through the diagonal way making the part where the water chased the most, eight-by-three. They couldn't use the same timber for both cuts—that one piece was wasted or made into some other kind of material. Probably some of the boards that went on top because it had to be eight-by-three and if it was cut out of a twelve they'd have been shy on one edge. But anyhow that was the flume material for construction and it was put together with spikes, not just nails. Spikes means eight inches or size 16 or 18 nails or 20's, if you understand nail sizes.

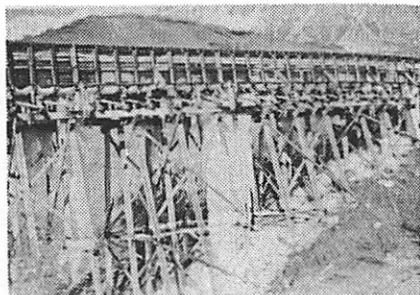
Then it didn't matter how much water was in the river or how much water we could divert into the flume, the flume was the same full all of the time. Now that might surprise you, but every thousand feet we had what we called a bulkhead. In the center of the flume we had a steel rail, a light rail and on each side we had made like a headgate to slip down in. Then we had long iron hooks with handles in the top of them and a hook on the bottom. We'd pick up a two-by-four and lay it down in there until we'd raise the water up to the same level as what it had been if it had five hundred feet in or a hundred second feet in. But it wouldn't raise it all the way back to the other gate, you understand. It would back the water up the thousand feet if we put enough in there but it would never bring it up the same level.

So, we'd get word from the ranger's camp [at the head of the river] that there's a heavy rain—to be prepared for a couple of hundred-second

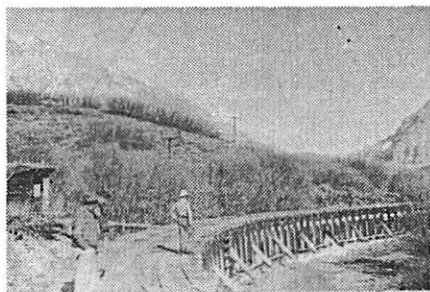
feet of summer water. We'd have to go down and pull [the bulkheads] out, even in the night and make preparations for this two hundred-second feet of extra water. Then the flume would already be soaked up for it was only a little ways from the lower side of either sand gate, or I mean bulkhead. And we had twenty of those to take out.



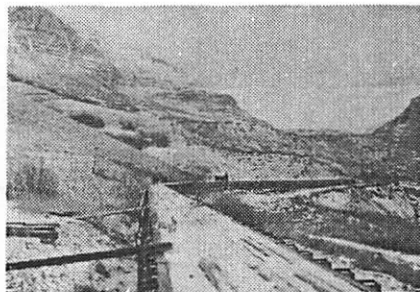
**Ice Conditions at Ring Stations 421-427 Looking Southeast**



**Ice Condition on "Peach Tree Trestle" (No. 2 Siphon Area, Rings 352-364) Looking Southeast**



**Chief of Party, John E. Mackay and Crew Running Centerline Survey and Old Flume at Ring Station 544**



**Inspection Tour of Old Flume by Engineers of Utah Power and Light Company and Morrison-Knudsen Co. and Olson Mfg. Co. View East**

**Photos of Olmsted Flume in Provo Canyon, 1948, just Prior to replacement by pipeline.**

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Now here's something for you to figure out, when you get ready. There's twenty of them and one day the superintendent hired a couple of men to go up there and mark them from the top of the flume to the tunnel. The flume goes into a tunnel down from there into a head house and then from there down to the turbines into the power company power plant that made the electricity. So he told them to go up and start to the top and work down to the tunnel and number every bulkhead, which they did. They had paint to put the numbers on each bulkhead. Then they got down to the tunnel and started to measure back up on the opposite side so they'd be marked on both sides. And what do you think? Ten isn't half of twenty. If you think so, you try to figure that out. Now I'll leave it up to you to figure out. I'm not a gonna tell you because I was sent down to pull a number ten one night and I went down and pulled number ten. The next day the superintendent came up over the flume and wanted to know why I didn't do what I was told. I said, "I did." And he said, "I know you didn't. I'll show you that there's not a bulkhead pulled out at ten." So I said, "All right, we'll walk down that far and see." So we went down. And I said, "Now here's number ten. Now there's the boards that I was told to pull out." "Well," he said, "How come there's number ten down there?" And I said, "Because ten isn't half of twenty, that's how come." So there's a problem for you girls, if you want to work it out.

Oakum is a preparation of seaweed that has been tarred with light pine tar like they macadamize roads with now, only it's not as dense and not as black and not as thick. It's been refined; some of the tar taken out of it and it's water resistant. When the water hits it, it swells and stops the leak. Now that's about what the composition of oakum is and plumbers use it in pouring vents and sewer lines. They caulk the sewer lines with that so that the lead they melt and put in there can't run on and waste and run off down into the sewer. And the same way when they put the vent up through the ceiling of a house. It has to be caulked so the smell or the perfumes from the sewer line don't come back up into the buildings.

The oakum was always cut in about eighteen-inch lengths and then we had cement bags and we'd just fix them so they'd fit just like a nose bag on a horse. Then we'd carry the oakum in there and we had what was called a caulkin' knife. Just a bolt flattened out on the opposite end from the head and made square across, like cuttin' off the end of a case knife and then we would drive the oakum in with that. And if you've never done it, don't do too much of it until your palm of your hand gets a callous and gets hard. Your hand will swell up on the front and it will swell up on the back and you'll have to do it with the opposite hand for a few days until you get your hand back in condition again. Or if you caulk,

sometimes you have to caulk pretty solid, you have to hit it pretty hard to get it driven in there back enough so's it can swell enough to fill it—especially when the crack begins to get old and there is lots of pressure against it with a heavy stream in there. So it's no kid's play; it's a man's job but it's been done away with now. They've replaced it with a—after it got so old and the maintenance was greater than the interest on the principle of a new pipeline—they put in a pipeline.



**Wood stave flowline  
patrolled by Con, 1926**

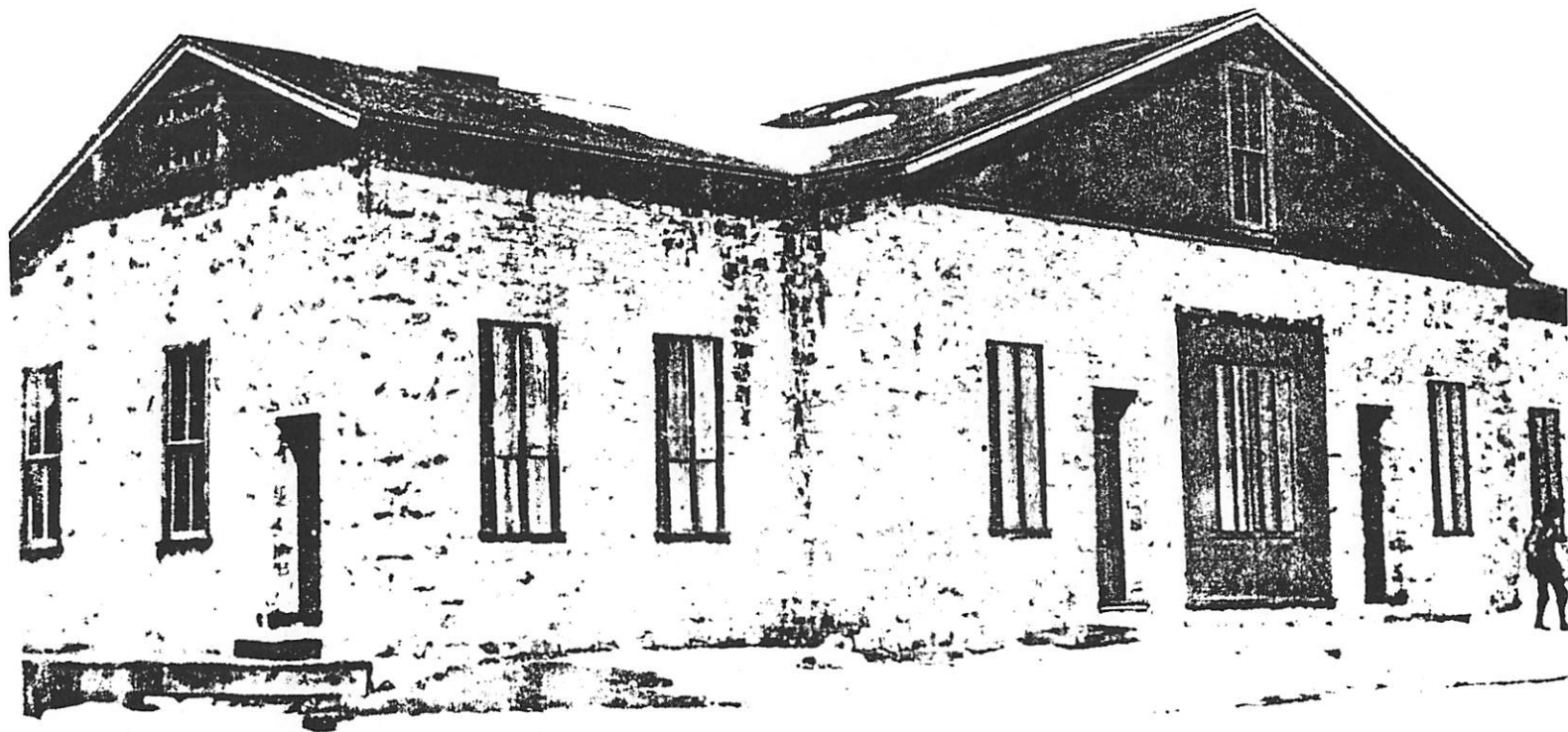
In early days, you know, people thought they got their pressure from an elevation which is a right thought, but there's no reason why they had to go up and grade that mountain down and bring that flume all that distance from the river up around over those hills and hollers and trussies and what have you, when they could have just as well put it in a pipeline and run it right down the river bed to the power plant and got the same amount of pressure as they got out of it by runnin' it around over the hills and spend that fabulous amount of money.

Oh, my daughter says that it hasn't been recorded that I said that we had a home maintained for us by the company at Nunn's and there were five families there; Nunn's, Provo Canyon, that's ten miles from Provo up Provo Canyon, Utah.

And that is the power plant that L.L. Nunn built and had enough wire strung around in the trees at Nunn's where he built the first power plant in Utah and had enough five hundred—and thousand—watt globes burning to run Bingham power, Bingham mines, when he wanted to put the power over there for the Bingham and Garfield operations instead of using coal and fuel. And he had to put up a bond to pay for the installing of the power plant, no put up a bond for the installation for the power equipment. And to take it out and put the steam in, if he didn't make the plant run.

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Nunn's Station in Provo Canyon, Utah, now abandoned, was built by industry pioneer, L. L. Nunn, to furnish power for mines at Mercur, Utah. The first 44,000 volt line in America extended from this hydro plant to Mercur—thirty-two miles to the west.

But he had as much wire consumed right on the flat as it took to reach from here to Bingham. And when he, when the superintendent was on that end and Nunn was on this end, going to put the switch in to switch the power over to him, and when the machinery started to go, the man over at Bingham dropped the receiver and started to run through the house a hollering, "It's a goin', it's a goin', it's a goin'!" And that's the first transmission line in the world that transmitted alternating current any particular long distance.

Well, I worked for the power company twenty-five years, but the first seven or eight years was on maintenance construction, all over the system repairing breakdowns, handlin' and moving transformers and power lines and what have you.<sup>13</sup>

## Summer Fun

For four years, during the summer months, two families came to Provo Canyon to enjoy the cooler temperature, leisure and freedom offered by the change of pace at Nunn's. Lila's sister, Elsie, brought her flock of little girls to live in one of the rented cottages. The mothers welcomed the hours they could be together; the cousins had playmates galore. Because of these glorious times Elsie's husband, Isaac Brockbank, purchased a cabin at Wildwood where, for years, the girls went back and forth as they visited with each other.

Another family came from southern Nevada; Ralph and Jetta (Leavitt) Huntsman arrived each year with their family of three girls and one boy. Mr. Huntsman taught in the public schools at this time; later he joined the faculty at Dixie College in St. George, Utah. He was an outstanding fine arts instructor. While he was commuting and completing his university degree at BYU, he and his family lived in a tent in a shaded and on a leveled area of ground. Having known the Huntsmans in Bunkerville, the further association Jetta and Lila developed endeared the families to each other.

Several times a week, before dark, the children gathered firewood. After the supper dishes were done, the families living on "the flat" gathered around a cheerful campfire, visited, and roasted marshmallows. Some of the older children saved their pennies to buy the marshmallows; it was around the campfire that some of them learned to "skin a marshmallow" at least twelve times. The group sang, sometimes, far into the night. Mrs. Huntsman had a beautiful singing voice and her melodic songs were learned and loved by the singers. Con's voice was strong and clear and his tones enriched the singing.

Con and Lila agreed, one summer, that their three oldest girls would profit from picking strawberries in the valley. For two or three days each week, for five years, during the season, Con drove ten miles to take the girls to pick, returned home, walked the flume, then went to the



strawberry patch for the girls after his work. Strawberry picking years brought memorable experiences to the family.

The summers passed and until professional duties took the time as well as the attention of the Adams girls the sisters had many happy times with each other, with their relatives and with their friends. Shady spots on Nunn's flat made ideal play areas—walking the flume, watching for sheep herds, picnicing, singing around campfires, roasting marshmallows, playing softball, hiking to the waterfalls, and swimming in Provo River. Playing paper dolls, reading, sewing, raising rabbits, gathering water cress, visiting with relatives and friends in other cabins up and down the canyon—all of these activities the family enjoyed. The carefree days during the summertime gave the growing girls security and appreciation for their blessings. The daughters matured and lived in harmony with their goodly parents.

## Five Daughters

The following was recorded in the fall of 1967 by S. Conrad Adams.

Now they want to know where all of my daughters are. I'm a man of daughters, no sons. My Dad had eight boys and no girls and I have five girls and no boys. I have one daughter here in the house with me tonight at Provo, Utah but she is getting ready to go up to Salt Lake where she works up at the state capitol [Elsie Dee]. Then my next daughter lives up at Edgemont, Provo [Connie Adams Tucker]. And my next daughter, Florence Adams Reinhardt, lives in Albuquerque, New Mexico, that's the third daughter. The fourth daughter is Mary June Adams Hamblin, living in St. Louis, Missouri and the fifth daughter, my baby, Ruth Adams Iverson, lives at Brigham City, Utah. But I get to see most of them once or twice a year. They've worked very hard for their education—they're pretty smart girls; I want my grand kids to know that. I've got sixteen grandchildren, five by Mrs. Tucker, five by Mrs. Hamblin, two by Mrs. Reinhardt, four by Mrs. Iverson. She has the small ones of course. The other families are getting up to where they're of some use to the family as gardeners or yard or lawn cutters or housework and what have you.

That's it.

Now they want to know what my sons-in-laws' names are: The one that married Connie Tucker is Ernest Tucker, and he is a heavy duty operator; owns his own bull dozers, trucks and what have you—back hoes and so on and so forth that you have to purchase in order to operate heavy construction.

Then the next son-in-law is Reinhardt. He's a New York boy, George Reinhardt. He's a New York boy and he met Florence over in Japan when she was working for the federal government in McArthur's office in Japan. And married her and she born one son over there, then after the war with Japan they moved back to the United States, built them a new



**SAMUEL CONRAD AND HIS SCHOOL GIRLS  
GRADUATES OF BRIGHAM YOUNG UNIVERSITY**



**Delilah Booth Adams**  
B.S. Degree 1938



**Elsie Delia**  
A.B. Degree 1943



**Connie A. Tucker**  
B.S. Degree 1948



**Florence**  
B.S. Degree 1944



**Mary June**  
A.B. Degree 1950



**Ruth**  
B.S. Degree 1955



Con Adams at  
462 North 1st West  
Provo, Utah, 1938



*Left to right:*  
Mary June, Elsie Dee, Delilah B.,  
Connie, Florence and Ruth Adams  
Provo, Utah, about 1941



Con at 445 N. Univ. Ave.  
Provo, Utah  
August 8, 1942



Lila and Con 1942

home out on Long Island, then they were transferred from there out to Korea, then from there to Paris, France, then from there back to the states again down to Albuquerque. He used to be superintendent of all the money that was spent in atomic energy explosions.

Then the next son-in-law is Robert Hamblin, a grandson of Jacob Hamblin's brother. He's a doctorate in sociology in the big Washington University at St. Louis, where he and his wife teach.

Then we have Verl Iverson—that's the daughter of Ruth Iverson—I mean the husband—and he teaches for the government up at the Indian school—Brigham City, Intermountain School. He's been very influential in getting students up there from Arizona and New Mexico to go to school at Brigham City.<sup>15</sup>

## Back to Sunny Nevada

One afternoon in the spring of 1944 Con entered his home in Provo and announced to his family that he had stopped work on the flume, the outdoor work was wearing him down, and he was going to return to southern Nevada. He found work at a gypsum mine near Las Vegas, Nevada, later that year. Two letters have been preserved written to his family from the mine.

Blue Diamond, Nev.  
12-9-45

Dear Mom & Girls:

Rec'd a letter from Mom about Friday night at midnight. Quirk brought it to me, he was to town with the Boss. One of the mechanics that works here lives in American Fork. If he drives his car home I will come with him. We are trying to get out of here the night of the 22.

I am sending my check \$146.78—50 to Mom, 12 to Mary & 8 to Toots. If I can find a dime I will get Quirk to insure this check. I have been out of cash for so long, I will have to get Quirk to cash a check tomorrow & bring it out. I owe union dues & a little to George the Bill [sic] cook & a battery cable & coil that I got from the company when I burned the truck.

My hands are fine but the medicine I am taking sure knocks my back out. But I am still making good money & on the first of the year we get a raise of 10¢ per hour. I will get \$1.25 per hour.

I will be glad to get home for a day or so, I hope you have summer weather. It is awfully cold here right now.

Taylor has been to L.A. for his wife. She went down to see her doctor; just had a child.

I guess father is still lingering on or I would have had word.  
Love, Dad